

What is claimed is:

1. A card-type wireless communication device connected to an information terminal device, comprising:

an antenna;

a receiver circuit for performing frequency conversion and demodulation on a high-frequency signal received through the antenna so as to output a base-band reception signal;

a transmitter circuit for performing modulation and frequency conversion on a base-band transmission signal fed thereto so as to output a high-frequency signal to the antenna;

a base-band signal processing circuit for processing the base-band reception signal and the base-band transmission signal;

an interface circuit that functions as an interface between the card-type wireless communication device and the information terminal device;

a power supply circuit for supplying power to each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit;

a connector for connecting the card-type wireless communication device to the information terminal device;

a receiving signal level detection block that outputs a plurality of different detection signals according to intensity of the high-frequency signal received through the antenna;

a first switching block that for turning on or off, for each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit, power fed from the power supply circuit thereto;

a first memory block for storing data as to which of the transmitter circuit, the base-band signal processing circuit, and the interface circuit to turn on or off in association with each of the detection signals; and

a first control block for controlling the first switching block so as to turn on or off power fed to each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit according to the detection signals and the data stored in the first memory block.

2. A card-type wireless communication device as claimed in claim 1, further comprising:

a plurality of amplifiers included in the receiver circuit and connected in series with each other for amplifying the high-frequency signal received through the antenna;

a second switching block for turning on or off, for each of the amplifiers independently, power fed from the power supply circuit thereto;

a third switching block for bringing into the shortcircuited or non-shortcircuited state each of the amplifiers independently;

a second memory block for storing data as to which of the amplifiers to turn on or off in association with each of the detection signals; and

a second control block for controlling the second switching block so as to turn on or off power fed to each of the amplifiers according to the detection signals and the data stored in the second memory block and controlling the third switching block so as to bring any amplifier that is turned on into the non-shortcircuited state and any amplifier that is turned off into the shortcircuited state.

3. A card-type wireless communication device as claimed in claim 1, wherein the receiving level detection circuit outputs a first detection signal, a second detection signal, third detection signal, or a fourth detection signal in decreasing order of the

intensity detected of the received signal,

and the data stored in the first memory block is such that

in association with the first detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned on;

in association with the second detection signal, the transmission circuit is turned off and the base-band signal processing circuit and the interface circuit are turned on;

in association with the third detection signal, the transmission circuit and the base-band signal processing circuit are turned off and the interface circuit is turned on; and

in association with the fourth detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned off.

4. A card-type wireless communication device as claimed in claim 2,

wherein the receiving level detection circuit outputs a first detection signal, a second detection signal, third detection signal, or a fourth detection signal in decreasing order of the intensity detected of the received signal,

and the data stored in the first memory block is such that

in association with the first detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned on;

in association with the second detection signal, the transmission circuit is turned off and the base-band signal processing circuit and the interface circuit are turned on;

in association with the third detection signal, the transmission circuit and the base-band signal processing circuit are turned off and the interface circuit is turned on; and

in association with the fourth detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned off.

5. A card-type wireless communication device as claimed in claim 1,
wherein the high-frequency signal transmitted or received through the antenna is in a 2.4-GHz frequency band and uses a frequency-hopping system based on spread-spectrum technology.

6. A wireless communication system having an information terminal device,
comprising:

a card-type wireless communication device, comprising:

an antenna;

a receiver circuit for performing frequency conversion and demodulation on a high-frequency signal received through the antenna so as to output a base-band reception signal;

a transmitter circuit for performing modulation and frequency conversion on a base-band transmission signal fed thereto so as to output a high-frequency signal to the antenna;

a base-band signal processing circuit for processing the base-band reception signal and the base-band transmission signal;

an interface circuit that functions as an interface between the card-type wireless communication device and the information terminal device;

a power supply circuit for supplying power to each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit;

a connector for connecting the card-type wireless communication device to the information terminal device;

a receiving signal level detection block that outputs a plurality of different

detection signals according to intensity of the high-frequency signal received through the antenna; and

a first switching block for turning on or off, for each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit independently, power fed from the power supply circuit thereto;

wherein said information terminal device comprises

a first memory block for storing data as to which of the transmitter circuit, the base-band signal processing circuit, and the interface circuit to turn on or off in association with each of the detection signals; and

a first control block for controlling the first switching block so as to turn on or off power fed to each of the transmitter circuit, the base-band signal processing circuit, and the interface circuit according to the detection signals and the data stored in the first memory block.

7. A wireless communication system as claimed in claim 6, further comprising:

a plurality of amplifiers included in the receiver circuit of the card-type wireless communication device and connected in series with each other for amplifying the high-frequency signal received through the antenna;

a second switching block for turning on or off, for each of the amplifiers independently, power fed from the power supply circuit thereto;

a third switching block for bringing into the shortcircuited or non-shortcircuited state each of the amplifiers independently;

a second memory block included in the information terminal device for storing data as to which of the amplifiers to turn on or off in association with each of the detection signals;

and

a second control block for controlling the second switching block so as to turn on or off power fed to each of the amplifiers according to the detection signals and the data stored in the second memory block and controlling the third switching block so as to bring any amplifier that is turned on into the non-shortcircuited state and any amplifier that is turned off into the shortcircuited state.

8. A wireless communication system as claimed in claim 6,

wherein the receiving level detection circuit outputs a first detection signal, a second detection signal, third detection signal, or a fourth detection signal in decreasing order of the intensity detected of the received signal,

and the data stored in the first memory block is such that

in association with the first detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned on;

in association with the second detection signal, the transmission circuit is turned off and the base-band signal processing circuit and the interface circuit are turned on;

in association with the third detection signal, the transmission circuit and the base-band signal processing circuit are turned off and the interface circuit is turned on; and

in association with the fourth detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned off.

9. A wireless communication system as claimed in claim 7,

wherein the receiving level detection circuit outputs a first detection signal, a second detection signal, third detection signal, or a fourth detection signal in decreasing order of the

intensity detected of the received signal,

and the data stored in the first memory block is such that

in association with the first detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned on;

in association with the second detection signal, the transmission circuit is turned off and the base-band signal processing circuit and the interface circuit are turned on;

in association with the third detection signal, the transmission circuit and the base-band signal processing circuit are turned off and the interface circuit is turned on; and

in association with the fourth detection signal, all of the transmission circuit, the base-band signal processing circuit, and the interface circuit are turned off.

10. A wireless communication system as claimed in claim 6,

wherein the high-frequency signal transmitted or received through the antenna is in a 2.4-GHz frequency band and uses a frequency-hopping system based on spread-spectrum technology.